

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Amendment of the Commission's Rules with Regard to Commercial Operations in the
3550-3650 MHz Band

July 14, 2014

Dear Mr. Wheeler,

Accordingly we welcome the initiative by the FCC to open 150 MHz of the 3.5GHz and in a way that establishes a three-tiered authorization framework - Incumbent Access, Priority Access, and General Authorized Access (GAA) tiers. And we also wish the FCC could have a deeper consideration of the global roaming of 3.5GHz band.

Since both US and China are important markets in the world, and US is one of the main regions for global roaming of China Mobile, we are pleased to provide some information and opinions on 3.5GHz band plan, and hope to cooperate with US operators to promote the global TDD market of 3.5GHz band.

Progress of 3.5GHz band

3.5GHz is being increasingly recognized as the most probable global harmonized TDD band and will play a key role in meeting the explosive mobile data demands. Regional band planning or re-farming considerations for this band have made significant progress in the world in recent years.

- Progress in Region 1

In Europe, ECC has approved 2 frequency arrangements (see figure 1 and figure 2) for 3400-3600MHz band, where the TDD frequency arrangement is determined as the preferred one. And the duplex mode of operation in the 3600-3800MHz sub-band

shall be TDD.

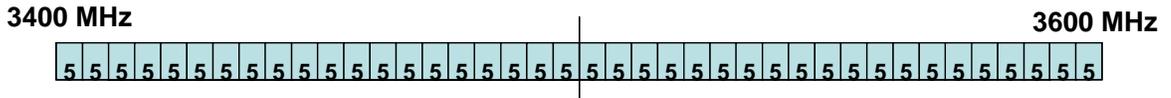


Figure 1 Preferred Frequency arrangement for the 3400-3600 MHz band based on TDD

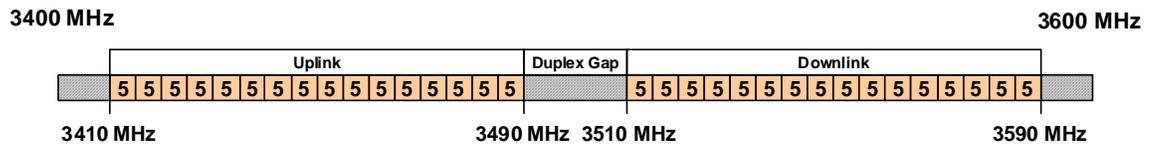


Figure 2 Alternative Frequency arrangement for the 3400-3600MHz band based on FDD

- Progress in Region 3

Regulators in Region 3 have also speed up the planning of this band and it is expected to finish the planning soon in some representative countries, e.g. in Japan and China

In China, co-existence study and field test have been carried out to evaluate the compatibility between LTE TDD and fixed satellite services. It is thought that current sharing study between TD-LTE and satellite is enough. It is feasible for LTE TDD to operate and coexist with satellite within band 42. Co-existence issue in very limited cases will be handled by the approach of geographic separation. It is anticipated that the planning for this band will be speed up in 2014.

In Japan, introduction of LTE-Advanced systems to 3400-3600MHz band was studied during 2012-2013. The technical requirements such as the coexistence with the incumbent systems (satellite, and microwave links) were concluded. And it is announced that Japan will launch LTE-A TDD in 3.5GHz commercial service around 2016.

In South Korea although some of the capacity in the 3.5-3.7GHz range is used for fixed satellite services, the government plans to release at least 160MHz of capacity at 3.5GHz for mobile broadband services by 2018 as part of its Mobile Gwanggaeto Plan. Both TDD (200MHz) and FDD (2x80MHz) options in 3400-3600MHz are considered to meet the capacity target.

- Legacy spectrum by operators

Previously this band has been widely allocated to operators for fixed wireless service deployment in many regions and countries. The estimation in ECC Decision (11) 06 shows that more than 300 operators have rolled out Mobile WiMax networks in this band. Many of them are now seeking the opportunities to migrate their legacy network in Band 42 to TD-LTE.

Advantages of TDD band plan for 3.5GHz

For the channeling arrangement for the 3400-3600MHz in EU, we suggest the Committee considering the advantages of TDD mode as below.

Mature TDD ecosystem on 3.5G

TD-LTE has been the dominate technology on 3.5GHz band with a fast growing ecosystem. Besides the UK Broadband announced the world's first TD-LTE 3.5GHz deployment in June, 2012, more than 21 operators (in Bahrain, Belgium, Croatia, France, Germany, Ireland, Italy, Mongolia, Montenegro, Nigeria, Poland, Russia, Spain, Bahamas, Canada, Bahrain, Argentina, Mexico, Azerbaijan, Philippine, Nigeria, Saudi Arabia, Pakistan, Peru, El Salvador, Cote d'Ivoire) are deploying TD-LTE on 3.5GHz or have publicly announced commercial contracts. Currently, More than 20 types of devices on 3.5GHz are available, including indoor and outdoor CPE, portable hotspots. Moreover, the smart phone supporting 3.5G LTE TDD was demonstrated in 2014 MWC. Thus, the industry can support the fast deployment of TDD on 3.5GHz band for EU, while choosing LTE FDD may cause substantial delay because no certified infrastructure and devices is announced.

- Larger market scale

It is predicted that 3.5GHz band will bring a flourishing market with the harmonized spectrum allocation. Besides the countries already have TD-LTE deployment on 3.5GHz, some other countries also shows preference on TDD, such as China, Canada, Japan and so on. Furthermore, TDD on 3.4-3.6GHz could combine with 3.6-3.8GHz to provide a 400MHz band for future mobile broadband, and form a giant uniform market for US.

Status of the Global TD-LTE Market

TD-LTE has already been a mainstream technology supported by a very well established and fast growing ecosystem. The growth of network deployment is accelerating around the world in terms of operator commitments and commercial launches as well as subscriber numbers. By February 2014, 29 TD-LTE networks were commercially launched in 22 countries with over 3 million commercial users. Some operators in the world's most important markets in value terms and subscriber terms are aligned in the TD-LTE development, such as Softbank, Sprint/Clearwire, and China Mobile. According to the Plan & Actions of the Global TD-LTE Initiative ("GTI"), over 500,000 TD-LTE base stations will be constructed to cover over 2 billion population by 2014.

Summary

We would like to suggest the FCC considering Mature TDD ecosystem on 3.5G for 3550-3700MHz band. The matured TDD ecosystem of 3.5GHz band will help FCC members to perform a fast network deployment. By adopting TDD mode, US operators will be able to cooperate with operators in other countries and regions to develop the global TDD market on 3.5GHz band. We believe it will leverage the economics of scale and benefit all the partners of 3.5GHz ecosystem.

Sincerely

If you have a question, comment or suggestions regarding our submission, please send your feedback to my attention.

Yours truly,

China Mobile, Datang mobile, Huawei, Nokia Solutions & Network

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